

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional).

<sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov).

<sup>3</sup> Enter Office that issued the document, by two-letter code (WIPO Standard ST.3).

- Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

<sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

<sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

Applicant is to place a check mark here if English language translation is attached.  
This collection of information is required by 37 CFR 1.01 and 1.08. The information

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**SUPPLEMENTAL  
INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet	2	Of	5	Attorney Docket Number	14418
-------	---	----	---	------------------------	-------

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	9	Unknown, "Identification and Maintenance of Neural Precursors From Human Embryonic Stem Cells: Other Potential Renewable Sources of Human Neural Precursors", Handbook of Stem Cells (Embryonic Stem Cells), Academic Press, 1: 513, 2004.	
	10	Anderson et al. "Can Stem Cells Cross Lineage Boundaries?", Nature Medicine, 7(4): 393-395, 2001.	
	11	Assady et al. "Insulin Production by Human Embryonic Stem Cells", Diabetes, 50: 1691-1697, 2001.	
	12	Ben-Hur et al. "Transplantation of Human Embryonic Stem Cell-Derived Neural Progenitors Improves Behavioral Deficit in Parkinsonian Rats", Stem Cells, 22: 1246-1255, 2004.	
	13	Bhattacharya et al. "Gene Expression in Human Embryonic Stem Cell Lines: Unique Molecular Signature", Blood, 103(8): 2956-2964, 2004.	
	14	Bhattacharyya et al. "Human Neural Stem Cells: A New Tool for Studying Cortical Development in Down's Syndrome", Gene Brain Behavior, 2(3): 179-186, 2003. Abstract.	
	15	Carpenter et al. "In Vitro Expansion of A Multipotent Population of Human Neural Progenitor Cells", Experimental Neurology, 158: 265-278, 1999.	
	16	Cattaneo et al. "Signalling Through the JAK-STAT Pathway in the Developing Brain", Trends in Neuroscience, 22(8): 365-369, 1999.	
	17	D'Amour et al. "Genetic and Functional Differences Between Multipotent Neural and Pluripotent Embryonic Stem Cells", Proc. Natl. Acad. Sci. USA, 100: 11866-11872 (2003)	
	18	De la Maza et al. "Inhibition of Adenovirus Oncogenicity in Hamsters by Adeno-Associated Virus DNA", Journal of the National Cancer Institut, JNCI, 67(6): 1323-1326, 1981.	
	19	Doetschman et al. "The In Vitro Development of Blastocyst-Derived Embryonic Stem Cell Lines: Formation of Visceral Yolk Sac, Blood Islands and Myocardium", Journal of Embryology and Experimental Morphology, 87: 27-45, 1985.	
	20	Frick et al. "Site-Specific Migration and Neuronal Differentiation of Human Neural Progenitor Cells After Transplantation in the Adult Rat Brain", The Journal of Neuroscience, 19(14): 5990-6005, 1999.	
Examiner Signature		Date Considered	

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional).<sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).<sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.<sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**SUPPLEMENTAL  
INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

*(use as many sheets as necessary)*

Sheet	3	Of	5	Attorney Docket Number	14418
-------	---	----	---	------------------------	-------

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	21	Gardner "Pluripotent Stem Cells From Vertebrate Embryos: Present Perspective and Future Challenges", Handbook of Stem Cells (Embryonic Stem Cells), Academic Press, 1: 15-22, 2004.	
	22	Ginis et al. "Differences Between Human and Mouse Embryonic Stem Cells", Developmental Biology, 269: 360-380, 2004.	
	23	Heng et al. "The Cryopreservation of Human Embryonic Stem Cells", Biotechnology and Applied Biochemistry, 41: 97-104, 2005.	
	24	Keller "In Vitro Differentiation of Embryonic Stem Cells", Current Opinion in Cell Biology, 7: 862-869, 1995.	
	25	Kettani et al. "Solution Structure of A Na Cation Stabilized DNA Quadruplex Containing G . G . G . G and G . C . G . C Tetrads Formed by G - G - G - C Repeats Observed in Adeno-Associated Viral DNA", Journal of Molecular Biology, 282: 619-636, 1998.	
	26	Kim et al. "Dopamine Neurons Derived From Embryonic Stem Cells Function in An Animal Model of Parkinson's Disease", Nature, 418: 50-56, 2002.	
	27	Li et al. "Specification of Motoneurons From Human Embryonic Stem Cells", Nature Biotechnology, Advanced Online Publication, pp 1-7, 2005.	
	28	Liu et al. "Glial Progenitors in the CNS and Possible Lineage Relationship Among Them", Biology of the Cell, 96: 279-290, 2004.	
	29	Martinez-Serrano et al. "CNS-Derived Neural Progenitor Cells for Gene Transfer of Nerve Growth Factor to the Adult Rat Brain: Complete Rescue of Axotomized Cholinergic Neurons After Transplantation Into the Septum", The Journal of Neuroscience, 15(8): 5668-5680, 1995.	
	30	Nakagawa et al. "Roles of Cell-Autonomous Mechanisms for Differential Expression of Region-Specific Transcription Factors in Neuroepithelial Cells", Development, 122: 2449-2464, 1996.	
	31	Niwa et al. "Self-Renewal of Pluripotent Embryonic Stem Cells Is Mediated Via Activation of STAT3", Genes & Development, 12: 2048-2060, 1998.	
	32	Okabe et al. "Development of Neuronal Precursor Cells and Functional Postmitotic Neurons From Embryonic Stem Cells In Vitro", Mechanisms of Development, 59(1): 89-102, 1996.	
Examiner Signature		Date Considered	

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional).

<sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

<sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

<sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**SUPPLEMENTAL  
INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet	4	Of	5	Attorney Docket Number	14418
-------	---	----	---	------------------------	-------

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	33	Ostenfeld et al. "Recent Advances in Stem Cell Neurobiology", Advanced Technology in Standard Neurosurgery, 28: 3-89, 2003. Abstract.	
	34	Ostenfeld et al. "Regional Specification of Rodent and Human Neurospheres", Developmental Brain Research, 134: 43-55, 2002.	
	35	Rao "Stem and Precursor Cells in the Nervous System", Journal of Neurotrauma, 21(4): 415-427, 2004.	
	36	Rao et al. "Gene Expression Profiling of Embryonic Stem Cells Leads to Greater Understanding of Pluripotent and Early Developmental Events", Biology of Reproduction, 71: 1772-1778, 2004.	
	37	Reubinoff et al. "Neural Progenitors From Human Embryonic Stem Cells", Nature Biotechnology, 19: 1134-1140, 2001.	
	38	Reynolds et al. "Generation of Neurons and Astrocytes From Isolated Cells of the Adult Mammalian Central Nervous System", Science, 255(5052): 1707-1710, 1992.	
	39	Rossi et al. "Neurologic Diseases: Sources of Stem Cells for Brain Repair", Handbook of Stem Cells (Adult and Fetal Stem Cells), Academic Press, 2: 696-697, 2004.	
	40	Sato et al. "Molecular Signature of Human Embryonic Stem Cells and Its Comparison With the Mouse", Developmental Biology, 260: 404-413, 2003.	
	41	Studer "Nervous System: Neural Stem Cells", Handbook of Stem Cells (Embryonic Stem Cells), 1: 238-239, 2004.	
	42	Svendsen "Stem Cells", In: A Companion to Genethics, Blackwell Press, Prepublished Version, pp. 1-16, 2002.	
	43	Svendsen et al. "Human Neural Stem Cells: Isolation, Expansion and Transplantation", Brain Pathology, 9: 499-513, 1999.	
	44	Svendsen et al. "Increased Survival of Rat EGF-Generated CNS Precursor Cells Using B27 Supplemented Medium", Experimental Brain Research, 102: 407-414, 1995.	
	45	Temple "The Development of Neural Stem Cells", Nature, 414: 112-117, 2001.	
	46	Tropepe et al. "Direct Neural Fate Specification From Embryonic Stem Cells: A Primitive Mammalian Neural Stem Cell Stage Acquired Through A Default Mechanism", Neuron, 30: 65-78, 2001.	
Examiner Signature		Date Considered	

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional).

<sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

<sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

<sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**Examiner  
Signature** \_\_\_\_\_ **Date  
Considered** \_\_\_\_\_

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered.

Include copy of copy of this form with next communication to:  
"Applicant" or "Institution" and "Contractor."

<sup>1</sup> Applicant's unique citation designation number (optional).  
<sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

<sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

**5** Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

<sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.